UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 6,978,015 B1
APPLICATION NO. : 09/710,579
DATED : December 20, 2005
INVENTOR(S) : Mark Alan Erickson et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Title page,

Item [56], **References Cited**, OTHER PUBLICATIONS, reads "Alexandra Duel-Hallen et al., IEEE Transactions on Communications, vol. 57, No. 5, May 1989, "Delayed Decision-Feedback Sequence Estimation", pp. 428-436." and should read -- Alexandra Duel-Hallen et al., IEEE Transactions on Communications, vol. 37, No. 5, May 1989, "Delayed Decision-Feedback Sequence Estimation", pp. 428-436. --.

Reads "D. Godard, IEEE Transaction Communications, vol. COM-28, No. 11, Nov. 1980, "Self-Recovery Equalization and Carrier Tracking in Two-Dimensional Data Communication System", pp. 1867-1875." and should read -- D. Godard, IEEE Transaction Communications, vol. COM-28, No. 11, Nov. 1980, "Self-Recovering Equalization and Carrier Tracking in Two-Dimensional Data Communication Systems", pp. 1867-1875. --.

Reads "Lennart Ljung, PTR Prentice Hall Information and System Science Series, "System Identification, Theory for the User", Second Edition, 1999, pp 70-139, 197-279, 317-360." and should read -- Lennart Ljung, PTR Prentice Hall Information and System Sciences Series, "System Identification, Theory for the User", Second Edition, 1999, pp. 70-139, 197-279, 317-360. --.

Reads "Raul A. Cacas et al., Broadcasting & Cable "Current Approaches to Blind Decision Feedback Equalization", Aug. 1999, pp 1-52." and should read -- Raul A. Casas et al., Broadcasting & Cable "Current Approaches to Blind Decision Feedback Equalization", Aug. 1999, pp. 1-52. --.

Reads "John G. Proakis, McGraw Hill Series in Electrical and Computer Engineering, Digital Communications, Third Edition, 1995, pp 267-286." and should read -- John G. Proakis, McGraw Hill Series in Electrical and Computer Engineering, "Digital Communications", Third Edition, 1995, pp. 267-286. --.

Reads "Arthur Gelb et al., "The Analytic Sciences Corporation, Applied Optimal Estimation", 1974, pp 156-179." and should read -- Arthur Gelb et al., The Analytic Sciences Corporation, "Applied Optimal Estimation", 1974, pp. 156-179. --.

"Craig Michael Teuscher," reference, reads "...Electrical Engineering and Computer Sciences, Low Power Receiver Design for Portable RF Applications: Design and Implementation of an Adaptive Multiuser Detector for an Indoor, Wideband CDMA Application, Fall 1998, pp 37, 43-52." and should read -- ...Electrical Engineering and Computer Sciences, "Low Power Receiver Design for Portable RF Applications: Design and Implementation of an Adaptive Multiuser Detector for an Indoor, Wideband CDMA Application", Fall 1998, pp. 37, 43-52. -- .

Reads "K. Sam Shanmugan et al., John Wiley & Sons, "Random Signals, Detection, Estimation and Data Analysis", pp 341-377." and should read -- K. Sam Shanmugan et al., John Wiley & Sons, "Random Signals, Detection, Estimation and Data Analysis", 1988, pp. 341-377. --.

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OTHER PUBLICATIONS, (cont'd),
Reads "Harry L. Van Trees, Massachusetts Institute of Technology, "Detection Estimation, and Modulation Theory", 1968, pp 19-163, 239-418." and should read -- Harry L. Van Trees, Massachusetts Institute of Technology, "Detection, Estimation, and Modulation Theory", 1968, pp. 19-163, 239-418. --.
Read "Honig, M.L. et al., "Suppression of Near- and Far-End Crosstalk by Linear-Pre- and Post-Filerting", Selected areas in Communications, IEEE Journal on. Vol. 10 Issue 3, Apr. 1992, pp. 614-629, entire document." and should read -- Honig, M.L. et al., "Suppression of Near- and Far-End Crosstalk by Linear Pre- and Post-Filtering", IEEE Journal on Selected Areas in Communications, Vol. 10, Issue 3, Apr. 1992, pp. 614-629, entire document. --.
Reads "Valenti, Craig F., Bellcore, "Cable Crosstalk Parameters and Models", ANSI Contribution IE1.4/97-302 Technical Subcommittee Working Group Members, Spectral Compatibility, Morristown, NJ 07960, USA, Sep. 22, 1997, pp.8." and should read -- Valenti, Craig F., Bellcore, "Cable Crosstalk Parameters and Models", ANSI Contribution TIE 1.4/97-302 Technical Subcommittee Working Group Members, Spectral Compatibility, Morristown, NJ 07960, USA, Sep. 22, 1997, pp.8. --.

Drawings,
Sheet 4, FIG. 5, Box 507, reads "DISTURBED RECEIVER" and should read -- DISTURBER RECEIVER --.
Sheet 5, FIG. 6, Box 601, reads "DETECTION OF SERVICE TYPE EXISTANCE" and should read -- DETECTION OF SERVICE TYPE EXISTENCE --.
Sheet 5, FIG. 6, Box 604, reads "ALL SERVICE TYPES ANALYZED?" and should read -- ALL SERVICE TYPES ANALYZED? --.
Sheet 5, FIG. 6, Box 620, reads "DESIGN DISTURVER RECEIVER" and should read -- DESIGN DISTURBER RECEIVER --.
Sheet 6, FIG. 8, Box 818, reads "NON VOLATILE STORAGE" and should read -- NON-VOLATILE STORAGE --.
Sheet 7, FIG. 9, Box 918, reads "DETECTION OF SERVICE TYPE EXISTANCE" and should read -- DETECTION OF SERVICE TYPE EXISTENCE --.

Column 10,
Line 14, reads "...network technologies other tha DSL (e.g., reless net-..." and should read -- ...network technologies other than DSL (e.g., wireless net-... --.

Column 13,
Line 5, reads "...this DEQ design is filter coefficients that a yield a filter..." and should read -- ...this DEQ design is filter coefficients that yield a filter... --.

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Column 15,
Line 8, reads "...existence (or lack thereof of disturber noise resuiting from a ..." and should read -- ...existence (or lack thereof) of disturber noise resulting from a ... --.

Column 16,
Line 2 reads "...based upon the parameters that setup the equalizer." and should read -- ...based upon the parameters that set up the equalizer. --.

Column 17,
Line 43, reads "...DSLAMS it has control over. The NMA 718 performs a..." and should read -- ...DSLAMs it has control over. The NMA 718 performs a... --.

Column 18,
Lines 29-30, read, "...of all diagnosed out-of-domain and in-domain disturbers disturbers and victims that are estimated to be in a given..." and should read -- ...of all diagnosed out-of-domain and in-domain disturbers and victims that are estimated to be in a given --.
Lines 44-45, reads, "...as a whole. For example, referring to FIG. 8, if a description 801 of the disturber sources observed at a line are sent..." and should read -- ...as a whole. For example, referring to FIG. 8, if a description 801 of the disturber sources observed at a line is sent... --.
Line 66, reads, "...each report identical disturber information that match the ..." and should read -- ...each report identical disturber information that matches the ... --.

Column 19,
Line 29, reads, "...NMA may also describe "out-of domain" disturbers. Thus,..." and should read
"...NMA may also describe "out-of-domain" disturbers. Thus,... --.
Line 40, reads, "...due to regions of overlapping and non overlapping frequency..." and should read -- ...due to regions of overlapping and non-overlapping frequency... --.
Line 54, reads, "...non volatile memory within a CPE, additional DSL network..." and should read -- ...non-volatile memory within a CPE, additional DSL network... --.
Lines 57-58, reads, "...an effective non volatile storage unit. That is, a CPE without non volatile storage will lose it's line level understanding if..." and should read -- ...an effective non-volatile storage unit. That is, a CPE without non-volatile storage will lose it's line level understanding if... --.

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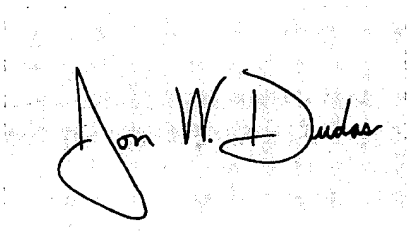
Column 20,
Line 51, reads, "...developed, etc. The results of any these analyses will take..." and should read -- ...developed, etc. The results of any of these analyses will take --.
Line 67, reads, "...reduced time spent during training the training period)." and should read -- ...reduced time spent during the training period) --.

Signed and Sealed this

Twenty-seventh Day of June, 2006



JON W. DUDAS
Director of the United States Patent and Trademark Office